

Please read this through before starting construction.

Here are some tips that will be of help. Use a small soldering iron or gun. Be sure the work is clean and use a small amount of flux. I recommend Nokorode Soldering Paste, available at all hardware stores. I also recommend Ersin solder 1/16" diameter. If you cannot get this, I will sell it at 100 inches for \$1.25 postpaid. Always spot solder first then check the fit. If the fit is good, then run a bead of solder in the seam. Solder the end hoppers and the center hopper to the sides from the inside. Do not solder completely until the fit is satisfactory. To clean up the solder joints, use a small knife first then finish with a small file.

Before starting construction, here is a suggestion you should follow. It will simplify the work. Obtain a piece of wood about 3/4" thick, 12" long and 7-1/2" wide. This will serve as a work board and also as a soldering jig. It should be as square as possible. One of the 12" edges must be straight. Fasten to this the wood cleat, a piece of wood about 3" long, an inch or so wide and about 1/4" thick, with glue or nails. Also fasten the 1/16" X 1/4" wood strip in place as shown in Fig. "A". When soldering the top angle to the side, place the angle on the work board as shown in Fig. "B". Use this jig when soldering the 1/8" channels to the sides, to make sure they are even with the ends and bottom of the sides. Fig. "C". If you are building Kit #R-1, be sure the rivet impressions are facing down before soldering the channels in place. To solder the the car ends to the sides, lay the car side in the jig so the top angle is over the straight edge of the work board. Lay a small weight on the side to hold it steady. But the side tight against the cleat. Hold the car end tight against the cleat and even with the 30° cut on the car side and solder at the inside edge only. The car ends fits inside the cars side. See Fig. "D". In the written instructions the letters s.j. signifies the detail found on the soldering jig drawing. All notes are found on the construction drawing.

Start construction. Locate the center on both sides and lay out the spacing for the ribs. On riveted models, be sure the rivet impressions are up. Approx. spacing is 3/16", center to center, Scribe all the lines from top to bottom, using a square. Do not install the ribs at this time. Cut 4 pieces of 1/8" channel 1-3/4" long. Lay the car side in the jig, scribed side down, and solder the 1/8" channel in place as shown in Fig. "C", s.j. and note #2. One channel at each end. Finish both sides. Lay the side in the jig and solder in place the top angle, letting it extend about 1/8" at each end for trimming. Place angle as shown in Fig. "B", s.j. and note #1. Trim top part of angle at a 45° angle and the bottom part even with the side. See drawing. Finish both sides. Lay one side in the jig and solder the car end to the side. Solder at inside only. Do the same with the other end and side. Be sure the end is even with the 30° angle cut on the car side. Car ends fit inside the sides as shown in Fig. "D", s.j. When both sides and ends are finished, solder them together at the corners. Line up the ends and solder at the 30° angle. Cut, fit, bend and solder the top angles to the ends. Fit neatly at the corners where the angles meet. Check for square. Cut 2 pieces of 1/8" channel 2-1/2" long and solder to the ends of the channel on the sides. Note #4. File ends for a clean joint.

Turn the work up-side-down and install the center beam. The beam is centered on the end channel and extends 1/8" at each end. For now, solder at the channels only. Note #6. Install the center hopper. Check for fit and solder lightly to ends until satisfied with the fit, then solder in place to ends. Solder beam to hoppers permanently. Notch the 2 bulkheads, 1/2" X 2-1/2" pieces, to clear the side channels and solder in place, even with the sides. Note #5. Solder the brake gear platform 7/16" X 2-1/2" piece, in place at one end of car. The platform sits on the bottom edge of the channel. Note #7.

Cut 2 pieces of 1/8" channel, 1-1/16" long and bevel one end slightly. Lay aside. Cut 2 pieces of angle 1-1/2" long. Locate the center on the angle and solder the unbeveled end of the channel at the center mark on angle. Solder

this completed unit to the end hoppers and to the center beam at end channel. Center the angle on the ends and solder at the ends of the angle only, not the entire length. Fig.4, Note #8. Solder the 2-3/4"X7/16"X.025 beam cover plates in place to the bottom edges of the center beam, even with the beam end. Note #10. Cut and file to fit the 2-1/2" piece and solder in place to cover the center part of the beam. Cover the outer side of the hoppers. It is done this way: Hold the 5/8" wide strip against the hopper and against the bottom edge of the side and scribe the lines outlining the hopper angle. Cut along this line, leaving a little excess. Solder in place and file away the excess. Finish the remaining hoppers. Do the same to the inner side of the hoppers. Cut, fit and bend the hopper angles and solder to the bottom of the hoppers. Note #13. Install the brake gear. Use "Goo" or epoxy. The valve is in the center. Cut to length, fit and solder in place the 4, 1/8" wide strips as shown in note #11. Install the corner angles. Solder carefully. Do the same with the longer center angles, 4 of these also. Trim and file to length the 4 ladders and solder in place at the top and bottom ends only. But the ladders against the corner angles.

Now solder the side ribs in place on the sides over the scribed lines. To help, transfer the lines to the top of the top angle. Use a square. Solder the ribs at the top and bottom only. Do not solder the full length of the rib as it is almost impossible to keep the work neat. The ribs go over the bottom part of top angle. Note #1. Finish both sides. Cut, bend and solder on the hand rails. Note #12. Drill 4 holes, using a #66 drill, 1/2" apart in the end channel and form the grab irons to fit. Note #14. Solder in place. Cut 4 pieces, 1-3/8" long from the 1/16" wide strip and form the steps. Fig.5. Solder in place. On the brake system end, center between the ladder and the center angle, the wheel housing and solder in place. Solder on the brake wheel. Locate and solder on the brake wheel platform. Note 15. Cut, form and solder on the uncoupler bars. Cut 4 pieces of angle about 1" long and solder to the bottom of the hoppers. Note 18. The outer end extend about 1/16". Cut 4 pieces of 1/16" wide strip, 7/16" long and form as shown in Fig.6 to make the hopper latches. Solder in place. Note 16. Cut 2 angles 1-5/8" long and solder at center, inside of car for side braces. Note 17.

Locate the truck centers at 5'-6" in from the end of the center beam and drill the appropriate hole and thread using a tap to fit the screws you use. I use a #40 drill and tap 5-40. Install the couplers. I suggest you use nylon couplers as you may have electrical problems with metal ones. Check for side play so no trouble will be encountered in tight curves. Use a short shanked coupler or cut off the nylon ones. I drill a #55 hole in the beam cover plate 1/4" in from the beam end and tap, 0-80. I then drill a #50 hole in the coupler shank and fasten to the car using a 1/4" long 0-80 screw. Adjust for correct height.

Before installing the trucks and painting, wash the completed model in a cleaner to remove the solder flux. Clean up all the solder joints. Use a good primer first. Now paint and decal for your favorite road. When installing the trucks, be sure the insulated wheels are all on the same side of the car or the sparks will fly.

I hope you have enjoyed building this model. You will be notified by mail as soon as the next kit is available and the ads will be in the magazines. Watch for it. Should you have any suggestions or questions, please write. I'll do all I can to help. Thank you very much.

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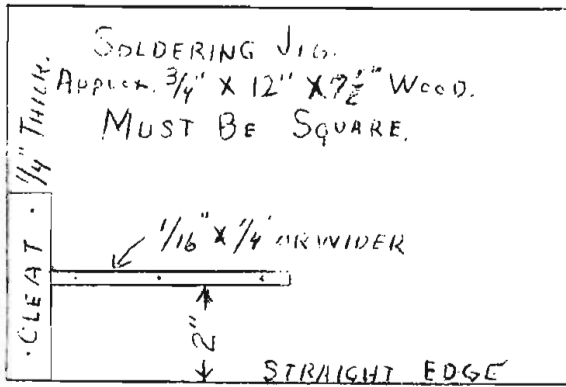


FIG. "A."

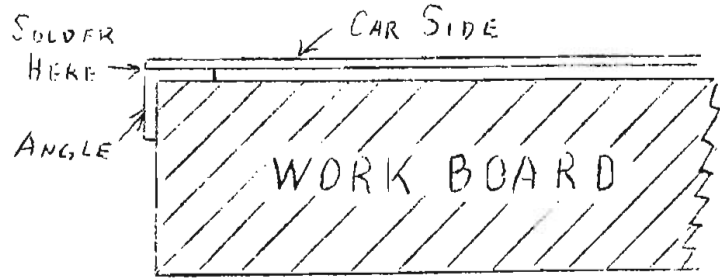


FIG "B"

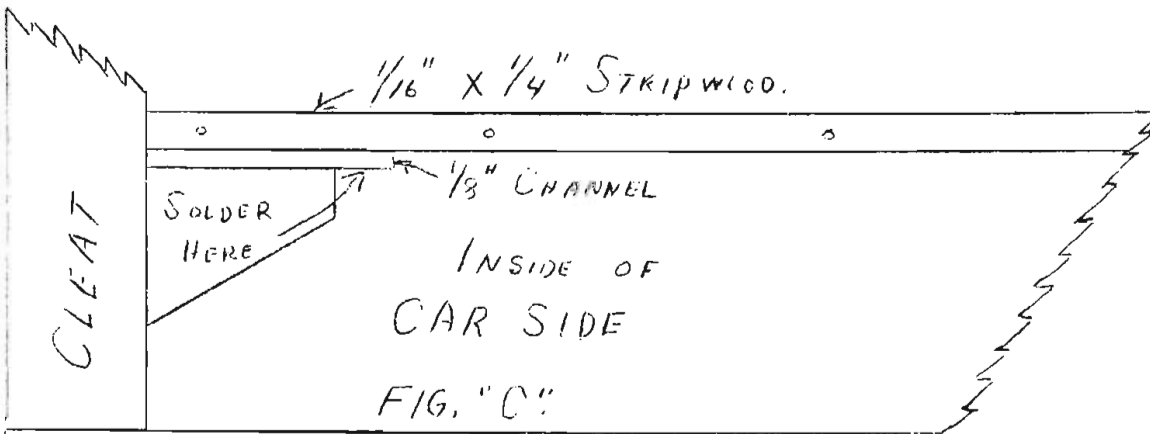


FIG. "C"

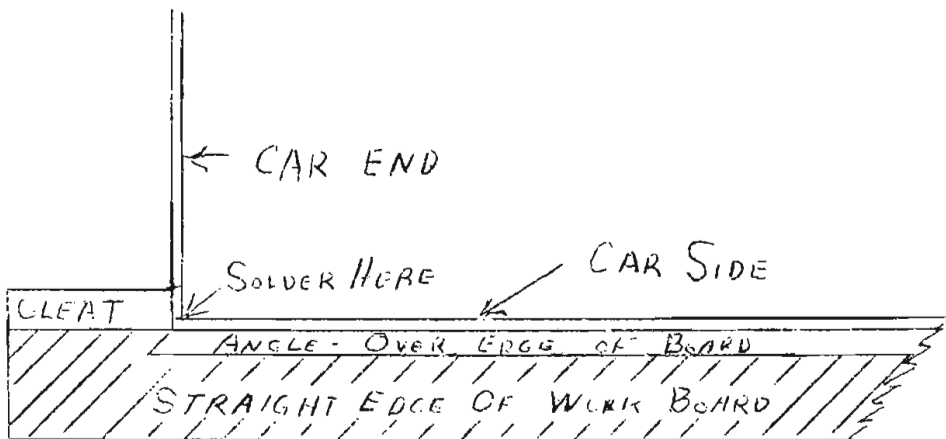
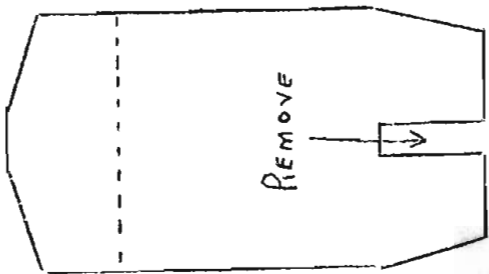


FIG. "D"



CENTER HOPPER
FIG. 2



ENDS
FIG. 1

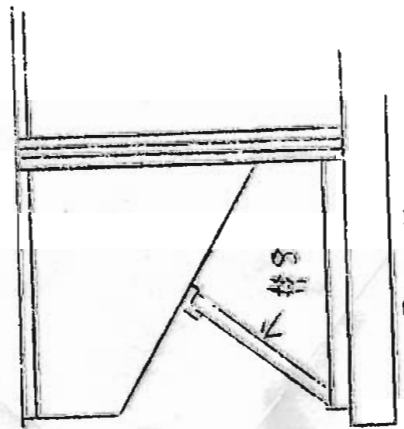
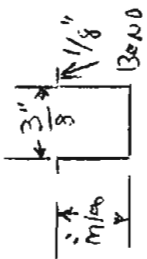
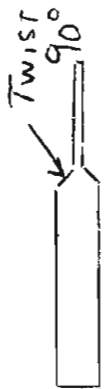


FIG. 4.

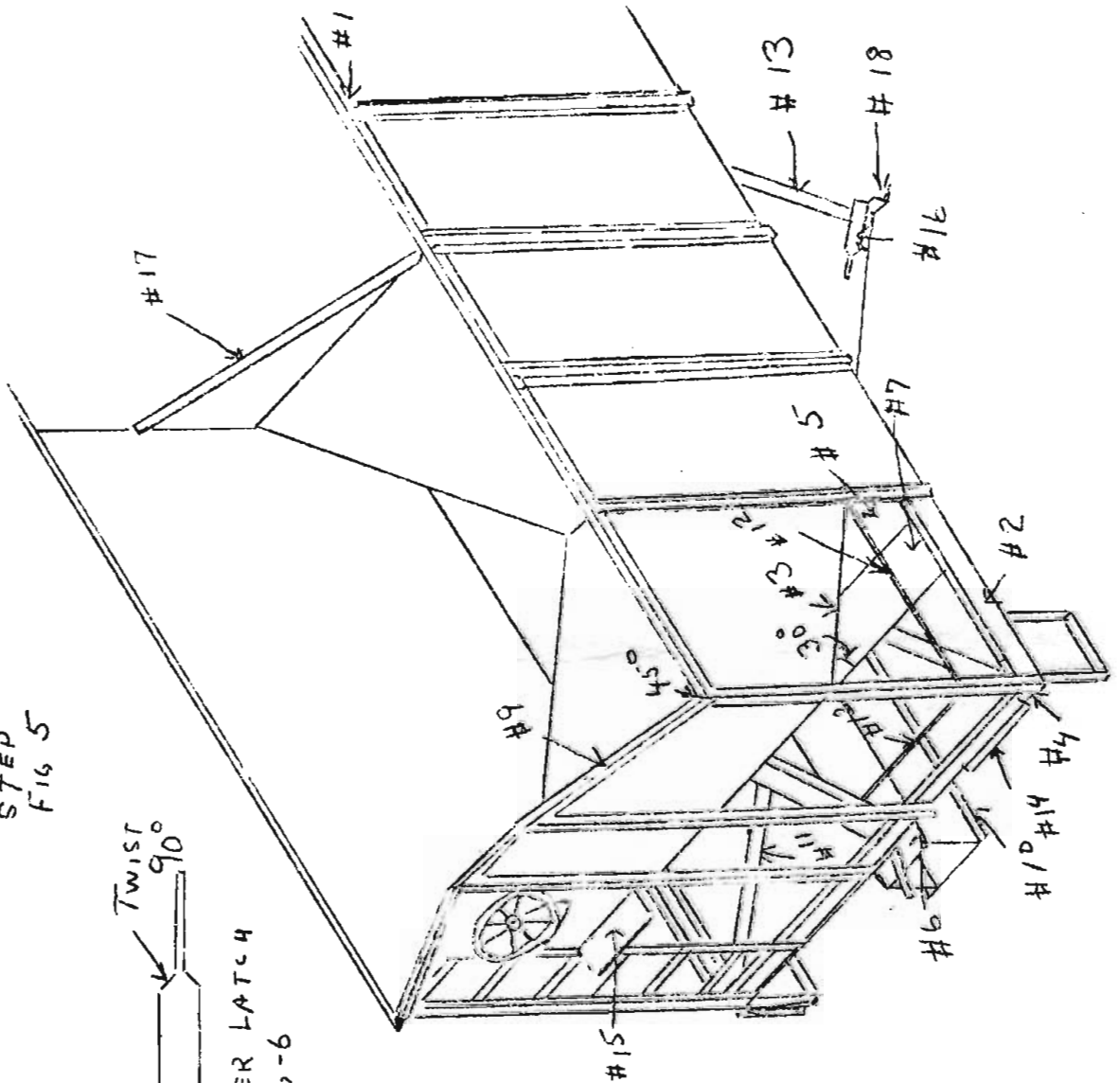
DRAWINGS
ARE NOT
TO SCALE!



STEP
FIG. 5



HOPPER LATCH
FIG. 6



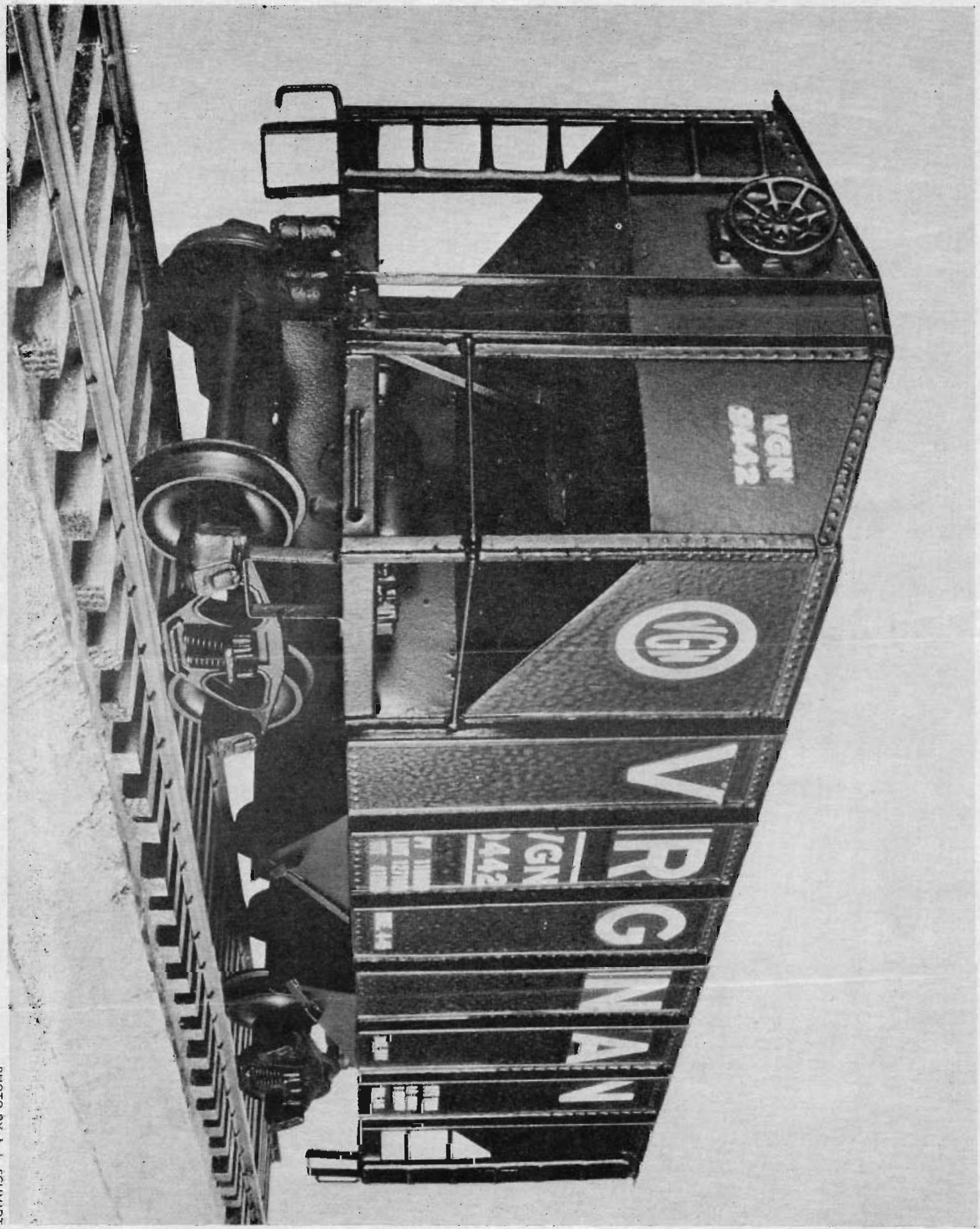


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